



Attorney Docket # 410001-374PUS

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Dirk KÖTHEN et al.

Serial No.: 10/559,207

Filed: December 2, 2005

For: Fuel Injection Nozzle

Examiner: McGraw, Trevor E.
Group Art: 3752

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April 12, 2007
(Date of Deposit)

Alfred W. Froebrich

Name of applicant, assignee or Registered Representative

Signature

April 12, 2007
Date of Signature

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Commissioner for Patents
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PRE-APPEAL BRIEF REQUEST FOR REVIEW

SIR:

Applicants request a Panel Review of the Final Rejection in the above-referenced application in accordance with the Official Gazette Notice dated July 12, 2005. The present request is filed concurrently with a Notice of Appeal. No amendments are being filed with this request.

The review is requested for the reasons set forth on the following pages.

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REMARKS

Independent claim 6, and dependent claim 9 stand rejected under 35 U.S.C. §103(a) as unpatentable over DE 27 46 901 ("*Marsch*"). Reconsideration of the application is respectfully requested.

Independent claim 6 includes the limitations of previous dependent claim 8 which recites that the width of the cooling duct is "approximately 0.25 times the height" and further recites "the cross-sectional area of the cooling duct being approximately twice the cross-sectional area of the inflow line".

In his rejection of dependent claim 8 in the October 13, 2006 Office Action, the Examiner alleged that applicant did not disclose how making the cooling duct with the recited width and height ratio solves any particular problem or is for any purpose. The Examiner further alleged that it appears the invention would perform equally well with the width and height being the same ratio in regard to width and height. The Examiner made similar allegations in the March 7, 2007 Advisory Office Action.

Applicant disagrees with the Examiner's allegations because the specification as originally filed clearly provides a purpose for the particular width/height ratio of the cooling duct. More specifically, paragraph [0010] of the specification as originally filed, states the following:

"A cooling duct 6 is arranged in the housing. The width of this cooling duct here is approximately 0.25 times the height extending in the direction of the axis A-A.... A cooling duct which is formed in this way may be made to extend ... close to the combustion chamber, thus extending into the end region of the nozzle which is subjected to the highest thermal stress. Furthermore, a large wall

surface 8 of the cooling duct 6 which faces the internal region of the nozzle is made available for the transfer of heat to the cooling water.”

Clearly applicant has provided a purpose for the particular width to height ratio of the claimed cooling duct. In fact, there is a criticality associated with the specific width of the duct that is 0.25 times its height, which is more than just a design choice, i.e., for the purpose of (1) extending the cooling duct as close as possible to the combustion chamber and (2) providing a large wall surface on a side of the cooling duct that faces the internal region of the nozzle for the transfer of heat to the cooling water.

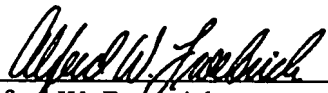
In view of the foregoing, *Marsch* fails to teach or suggest the claimed width to height ratio of the cooling duct as recited in independent claim 6, along with any teaching or suggestion of the purpose of the claimed invention. Accordingly, *Marsch* fails to teach, suggest or provide any motivation whatsoever to establish a width of the cooling duct that is “approximately 0.25 times the height”, as expressly recited in independent 6.

Furthermore, *Marsch* also fails to teach “the cross-sectional area of the cooling duct being approximately twice the cross-sectional area of the inflow line”. As described in the specification as originally filed, this feature provides a high flow rate of cooling medium and thus a large rate of dissipation. The figures of *Marsch* show only a one-dimensional width of the inflow line and do not disclose the cross-sectional area. There is no mention of a ratio between the cross-section area of the cooling duct and the cross-section area of the inflow line in *Marsch*. Accordingly, *Marsch* fails to teach or suggest “the cross-sectional area of the cooling duct being approximately twice the cross-sectional area of the inflow line”, as expressly recited in independent claim 6.

Dependent claim 9, being dependent on independent claim 6, is allowable for at least the same reasons as is independent claim 6, as well as for the additional recitations contained therein.

Applicant respectfully submits that this application is in condition for allowance, and such action is respectfully requested.

Respectfully submitted,
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